

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appln No. : 10/729,230
Applicant(s): Masayuki USHIKU et al.
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For : INK-JET RECORDING SHEET
Art Unit : 1774
Examiner : Pamela R. Schwartz
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DECLARATION UNDER 37 CFR 1.132

Masayuki Ushiku, declares that I am a co-inventor of the invention described and claimed in the above-referenced application.

I was graduated from Aoyama Gakuin University in March 1992, with a Master's Degree in Chemistry. Since April 1992, I have been employed by Konica Corporation, now Konica Minolta IJ Corporation, the assignee of the present application. I have been engaged in research and development of photographic materials and Inkjet medias.

The following experiments were done under my supervision and control. The purpose of the experiments is to demonstrate the distinct superior effects of the recording sheets of the present invention compared to the recording sheets of Katoh.

The recording sheets Nos. 25, 28, 35, 52 and 54 were prepared in accordance with the preparation methods described in paragraph Nos. [0219] and [0231] of Katoh.

The reason to select these sheets are:

(i) all of them show good Bleeding Resistance, which is one of the required effects of the present invention; and

(ii) each of them has a different pH value within the range of the present invention.

Thus prepared recording sheets are subjected to the same evaluation test as the present application (see pages 36-38).

As are shown in the following Table A, all of the evaluated recording sheets have inferior Ink Absorbability (C), and low Crack Resistance (C). In comparison, the recording sheets of the present invention exhibit superior effects of Ink Absorbability (A or B) and Crack Resistance (A or B) as are shown in Table 2 (reproduced below from page 39 of the present specification).

Table A

Recording Sheet No.	Ink Absorbability	Glossiness (%)	Print Density	Crack Resistance	Bleeding Resistance	Bleeding Resistance	Layer Surface pH
					M	K	
25	C	39	1.96	C	1.26	1.36	3.8
28	C	36	1.98	C	1.19	1.31	5.7
35	C	39	1.96	C	1.23	1.32	4.8
52	C	40	1.97	C	1.23	1.34	5.0
54	C	39	1.97	C	1.19	1.33	3.6

Table 2

Record- ing Sheet No.	Silica Particles		*PVA Solid Ratio (%)	F/B	Layer Sur- face pH	Average Diameter of Secondary Silica Particles (nm)	Ink Absorba- bility	Gloss- iness (%)	Print Density	Crack Resis- tance	Re- marks
	Disper- sion	Solid Ratio (%)									
1-1	S-1	83.4	16.6	5.0	7.3	232	D	55	1.98	B	Comp.
1-2	S-1	90.0	10.0	9.0	7.3	230	B	38	1.89	D	Comp.
1-3	S-2	90.0	10.0	9.0	6.0	229	B	54	2.15	B	Inv.
1-4	S-3	90.0	10.0	9.0	4.5	211	A	55	2.25	B	Inv.
1-5	S-4	90.0	10.0	9.0	4.6	204	A	56	2.23	B	Inv.
1-6	S-5	90.0	10.0	9.0	3.1	199	A	56	2.25	B	Inv.
1-7	S-6	90.0	10.0	9.0	2.5	200	B	40	2.24	D	Comp.
1-8	S-4	86.7	13.3	6.5	4.6	203	A	55	2.25	A	Inv.
1-9	S-4	84.6	15.4	5.5	4.6	205	B	54	2.24	A	Inv.
1-10	S-4	83.3	16.7	5.0	4.6	207	C	55	2.24	A	Comp.
1-11	S-7	86.7	13.3	6.5	4.5	294	A	52	2.16	A	Inv.
1-12	S-8	86.7	13.3	6.5	4.5	352	A	44	1.90	B	Comp.
1-13	S-9	86.7	13.3	6.5	4.6	228	A	55	2.14	A	Inv.
1-14	S-10	86.7	13.3	6.5	4.5	228	B	52	1.92	A	Comp.
1-15	S-11	86.7	13.3	6.5	4.6	219	C	50	1.83	A	Comp.

*PVA: polyvinyl alcohol

Comp.: Comparative Example Inv.: Present Invention

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001, of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: May 20, 2005

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